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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,861	07/23/2003	Johan Van Walsem	14074-003001	7989

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EXAMINER	
LILLING, HERBERT J	

ART UNIT	PAPER NUMBER
1657	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/625,861	WALSEM ET AL.	
	Examiner	Art Unit	
	HERBERT J. LILLING	1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 108-111* is/are pending in the application.

4a) Of the above claim(s) *4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-26 and 108-111* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *4* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Receipt is acknowledged of the amendment filed September 18, 2006.

2. Claims 1-26 and 108-111 are now pending in this application.

Claim 4 stands withdrawn from consideration as drawn to the non-elected species.

Claims 27-107 and 112-127 have been cancelled.

3. The rejection of Claims 1-3, 5-27 and 108-111 under 35 U.S.C. 112, first paragraph has been withdrawn in view of the amendment to the claims.

4. The drawings submitted on February 22, 2006 have been approved.

5. The **rejections of claims 1-3, 5-26 and 108-111 have been maintained** for the reasons submitted in the last office action as recited:

> "4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
>
> A person shall be entitled to a patent unless –
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 5-26 are rejected under 35 U.S.C. 102(e) as anticipated by Kurdikar et al., U.S. 6,043,063 teaches the following:

> The PHA-poor solvent can be immiscible (i.e., less than about 10% solubility) with the PHA-good solvent. In this case, some of the precipitation of PHA polymer occurs at the interface of the PHA-good solvent and PHA-poor solvent. Alternatively, the PHA-poor solvent can be miscible (i.e., greater than about 90% solubility) with the PHA-good solvent. The use of PHA-poor solvents allow for the precipitation of PHA polymer from a PHA-enriched solvent mixture such that the polymer precipitates while many of the meal components/color bodies remain in solution. The precipitated polymer may then be separated from the PHA-good solvent/PHA-poor solvent mixture by a conventional solid-liquid separation technique, for example by filtration or centrifugation. The precipitated polymer can be further washed if desired, and then dried.

It is considered that the reference anticipates the claimed language for separating a PHA polymer with a solvent system, which includes a mixture of two solvents. The reference teaches a mixture, which includes the claimed solvents of hexane as the precipitant, and butyl acetate as the PHA solvent. The claims do not require that the solvent system containing the two solvents to be as a mixture which has also been disclosed by Kurdikar et al either as a mixture or separately added for the separation of the polymer from the biomass.

The solvent system does not require that both solvents be added simultaneously as it is noted that the specification discloses the following for the claimed "solvent system":

> " Moreover, the solvent system can be formed and then contacted with the biomass, or the biomass can be contacted with fewer than all the components of the solvent system,

> followed by subsequent addition of the remaining portion of the solvent system (e.g., in series or all at once). For example, in embodiments in which the solvent system includes a solvent for the PHA and a precipitant for the PHA, the slurry can be contacted with the solvent, followed by addition of the precipitant, or vice-versa. Alternatively, the solvent and precipitant can be combined to form the solvent system, followed by contacting the biomass."

or, in the alternative, Claims 1-3 and 5-27 are rejected under 35 U.S.C. 103(a) as obvious over Kurdikar et al., U.S. 6,043,063 further in view of Noda, U.S. 5,821,299 or Horowitz, US 6,340,580 or Martin US 6,709,848.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

If there are any differences with respect to the solvent, properties of the solvent, amounts of the solvents or biomass, these differences are considered to be prima facie obvious in view of the references absent unexpected process steps or data.

It would have been prima facie obvious to employ the marginal solvent mixture to separate a polymer from a biomass of Noda U.S. 5,821,299 for the solvent of Kurdikar et al to render the claims unpatentable over the references absent unexpected or unobvious process steps.

Both Martin and Horowitz teach the separation of polymer from a biomass employing centrifugation.

Martin teaches that:

> "The PHA derivative then is separated from the PHA derivative-oil mixture using, for example, a physical process such as distillation, extraction, centrifugation, supercritical fluid extraction, preparation filtration, and/or chromatography. Further refining of the essentially oil free PHA can be carried out by standard procedures known to those skilled in the art."
>
> And
>
> Horowitz teaches the centrifugation as well as the formation of a pellet :
>
> " ... cell slurry containing polyhydroxyalkanoate (PHA) was processed as follows to obtain a purified polymer. Cells of Pseudomonas sp. bacteria were fermented as described in Example 1 .....The initial slurry (5 L), which comprised approximately 13% (wt/wt) suspended solids, was centrifuged at 4000 g for 20 min. The pellet fraction was resuspended to its original volume in deionized water and then recentrifuged under identical conditions. The pellet fraction was then resuspended in acetone to its original volume."
>
> The claims have been rendered prima facie obvious absent unexpected or unobvious process steps over the references of record."

Thank you for pointing out that the rejection is also rejected under 35 U.S.C. 102 (b) which is correct.

The rejection under 35 U.S.C. 102(e) has been maintained in view of the following:

706.02(f) [R-3] Rejection Under 35 U.S.C. 102(e)

35 U.S.C. 102(e) , in part, allows for certain prior art (i.e., U.S. patents, U.S. patent application publications and WIPO publications of international applications) to be applied against the claims as of its effective U.S. filing date. This provision of 35 U.S.C. 102 is mostly utilized when the publication or issue date is too recent for the reference to be applied under 35 U.S.C. 102(a) or (b). In order to apply a reference under 35 U.S.C. 102(e), the inventive entity of the application must be different than that of the reference. Note that, where there are joint inventors, only one inventor *>needs to< be different for the inventive entities to be different and a rejection under 35 U.S.C. 102(e) is applicable even if there are some inventors in common between the application and the reference.

The arguments **have been deemed not to be persuasive** based on the primary reference to Kurdikar et al who teaches a composition which contains all three of the components which is further separated by one of two disclosed procedures which includes centrifugation [meets the grounds for anticipation]. The centrifugation separates "at least some of the solution from the residual biomass" even if there is a complete separation of the polymer from the solution.

Applicant is entitled to submit more persuasive arguments pertaining to the alleged differences as to the components in the claims solution compared to the prior art reference to Kurdikar et al or to submit amendment(s) to the claims, request appeals review of the final rejection or go to the Board of Appeals. If Applicant submits arguments, declarations or amendments, all of the claims must be allowed otherwise the submitted papers will not be entered.

Applicant **may telephone** this Examiner to specifically point out the alleged differences as to the components as claimed and those of the reference which alleged differences [columns and lines with specific components compared to the claimed

solvent, precipitant (compound for precipitating the polymer in the solution) and the PHA polymer] will be considered to withdraw the prior art rejections.

6. **No claim is allowed.**

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Lilling whose telephone number is 571-272-0918 and Fax Number is (703) 872-9306 or SPE Jon Weber whose telephone number is 571-272-0925. Examiner can be reached Monday-Friday from about 7:30 A.M. to about 7:00 P.M. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H.J.Lilling: HJL
(571) 272-0918
Art Unit **1657**
October 04, 2006

Dr. Herbert J. Lilling
Primary Examiner
Group 1600 Art Unit 1657